REMARKS

Filed concurrently herewith is a Request for a One-Month Extension of Time which extends the shortened statutory period for response to January 7, 2006. Accordingly, Applicant respectfully submits that this response is being timely filed under the next business day rule.

The Official Action dated September 7, 2005 has been received and its contents carefully noted. In view thereof, claims 4-20 have been canceled as being directed to a non-elected species while claims 1-3 have been amended and new claims 21-32 have been added in order to better define that which Applicant regards as the invention. Accordingly, claims 1-3 and 21-32 are presently pending in the instant application.

With reference now to the Official Action and particularly paragraph 1 thereof, Applicant hereby confirms the election of Species A wherein claims 1-3 are readable thereon. In view of the foregoing amendments, it is respectfully requested that each of claims 1-3 as well as new claims 21-32 be fully considered and allowed by the Examiner.

With respect to paragraph 2 of the Office Action, the Examiner has requested that a new title be provided which is descriptive of the claimed invention. With the foregoing amendments, the title of the present invention has been amended in order to read Differential Current Driver with Shunting Element. It is respectfully submitted that this title is descriptive of Applicant's claimed invention. Accordingly, it is respectfully requested that the foregoing title be fully considered and approved by the Examiner.

With respect to paragraph 3 of the Office Action, the disclosure has been objected to as including minor informalities. Again, as can be seen from the foregoing amendments, those informalities noted by the Examiner have been amended and consequently it is

respectfully submitted that Applicant's specification is now in proper formal condition for allowance.

With respect to paragraph 4 of the Office Action, claim 1 has been rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Particularly, the Examiner notes that the limitation in line 6 of the claim is indefinite because it is mis-descriptive. As can be seen from the foregoing amendments, independent claim 1 and particularly the limitation previously noted by the Examiner as being indefinite has been amended in order to clearly define that which Applicant regards as the invention. Accordingly, it is respectfully submitted that Applicant's claimed invention as set forth in independent claim 1 as well as those claims which depend therefrom are now in proper condition for allowance.

With reference to paragraph 5 of the Office Action, claims 1-3 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,448,848 issued to Altmann. This rejection is respectfully traversed in that the patent to Altmann neither discloses nor suggests that which is presently set forth by Applicant's claimed invention.

With the foregoing amendments, independent claim 1 recites a differential current driver having two output terminals, a common node, a current source supplying a first current to the common node, two switches connected to the common node and to the two output terminals, and a circuit for selectively closing the two switches according to data in order to be transmitted, the current source having control terminal receiving a bias signal, the first current being controlled by the bias signal with the differential current driver comprising a comparison circuit for receiving the biased signal and mirroring the first current to obtain a second current, comparing the second current with a reference value and generating a control

signal having a value responsive to a difference between the first current and the reference value, and a current adjustment circuit connected to the common node for diverting part of the first current away from the switches responsive to the control signal. Clearly, the patent to Altmann neither discloses nor remotely suggests these features.

In reviewing the teachings of Altmann, it is noted that the circuit described therein is an analog filter circuit in which the Examiner identifies transistors M_1 and M_2 with the switches of the present invention or switch circuits, amplifier A with the present comparison circuit, and transistors M_3 and M_4 with the instant adjustment circuit set forth by Applicant's claimed invention. In view of the foregoing amendments, it is respectfully submitted that Applicant's claimed invention now clearly distinguishes from these teachings. That is, in accordance with Applicant's claimed invention, the instant comparison circuit receives the bias signal or second node voltage signal (as recited in new independent claim 21), while Altmann's comparison circuit A(s) instead receives a common mode voltage generated from the outputs of the switches M_1 and M_2. Additionally, the adjustment circuit set forth in accordance with Applicant's claimed invention is connected to the common node as recited in independent claim 1 or first node as recited in new independent claim 21 while Altmann's adjustment circuit (transistors M_3 and M_4) is connected to the output terminals, specifically; out and outb.

It is noted that these differences cause the two circuits to operate in completely different manners. The present circuit as recited in Applicant's claimed invention responds to the amount of current supplied by the constant-current source, which changes temporarily when the output changes from the disabled state (both switches off) to the enabled state (one switch on, on switch off). In reviewing the teachings of Altmann's circuit, it is noted that this circuit responds to a voltage drop produced by an unchanging constant current conducted

through a g_m cell (120) that receives varying outputs. Furthermore, the purpose of the presently claimed circuit and that of Altmann are also different. That is, the purpose of the circuit set forth in accordance with Applicant's claimed invention is to suppress sudden high current output on one of two output signal lines when the output changes from the disabled to the enabled state, while the purpose of Altmann's circuit is to control common-mode output current on both output signal lines during continuous operation of the circuit. Accordingly, it is clear that the purpose and intended operation of the two circuits are completely different.

Even more significantly, Altmann's circuit operates by feedback control, the feedback loop including the output terminals (out, outb), the g_m cell (120) that receives the output signals, the amplifier A(s) controlled from within the g_m cell, and transistors M_3 and M_4 that are controlled by the amplifier A(s) and adjust the current at the output terminals (out, outb). With the present invention, the circuit operates by feed-forward control, that is bias signal to comparison circuit to adjustment circuit to common node, which is faster than feedback control. Such a fast response is essential for the purpose of the circuit set forth in accordance with Applicant's claimed invention. Consequently, it is respectfully submitted that Applicant's claimed invention as set forth in independent claim 1 as well as those claims which depend therefrom clearly distinguish over the teachings of Altmann and are in proper condition for allowance.

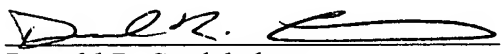
With further reference to new independent claim 21, this claim is directed to a circuit set forth in Fig. 1 and recites a differential current driver comprising a first transistor connected to a first node, the first transistor having a gate electrode connected to a second node, a first circuit switch connected to the first node and a first output terminal, a second switch circuit connected to the first node and a second output terminal, a controller controlling the first and second switch circuits according to voltage levels of two input

signals, a comparison circuit connected to the second node, for comparing a first current generated by a voltage level of the second node and a reference current and outputting a comparison result, and an adjustment circuit generating a current path between the first node and ground on the basis of the comparison result. Again, such features are clearly not taught by Altmann. Again, as noted that the scope of independent claim 21 falls within the scope of amended claim 1 and consequently it is respectfully requested that the new claims 21-32 be entered and fully considered by the Examiner.

Therefore, in view of the foregoing it is respectfully requested that the objections and rejections of record be reconsidered and withdrawn by the Examiner, that claims 1-3 and 21-32 be allowed and that the application be passed to issue.

Should the Examiner believe a conference would be of benefit in expediting the prosecution of the instant application, he is hereby invited to telephone counsel to arrange such a conference.

Respectfully submitted,



Donald R. Studebaker
Reg. No. 32,815

Nixon Peabody LLP
401 9th Street N.W.
Suite 900
Washington, D. C. 20004
(202) 585-8000